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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/919,552 | 07/31/2001 | Bing Lin Yang | YKI-0072 | 4384 |

23413 7590 06/24/2003

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EXAMINER

MACCHIAROLO, PETER J

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 06/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,552

Applicant(s)

YANG, BING LIN

Examiner

Peter J Macchiarolo

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. The reply filed on February 24, 2003 consists of changes to the claims, and remarks related to the prior rejection of claims in the First Office Action. The reply, however, does not address the objections to the Drawings or the Specification as mentioned in the First Office Action. Further, Claims 1-5 are not allowable as explained below.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the additive as recited in amended claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

3. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wijenberg et al. (USPN 6,259,205; "Wijenberg") in view of Minamikata et al (USPN 5,331,249; "Minamikata").

5. In regards to claims 1 and 2, Wijenberg discloses in figure 2, an illuminant for a discharge lamp comprising a housing (31) constructed from a cylindrical transparent material having equal inner radii at both open ends, a pair of discharge electrodes (4, 5) placed to oppose each other separated by a predetermined gap, and sealing spacers (32a, 34, 10 and 32b, 35, 10) which have an outer radius approximately equal to or slightly smaller than the inner radius of the housing, and onto which respective electrode axis of each discharge electrode is fixed, the fixing position of the sealing spacer being adjustable along the axial direction of the housing, and the sealing spacers being fixed to the housing at a condition where a discharge gas fills the discharge chamber at positions where the discharge electrodes are separated by a predetermined gap (Ea).

6. Wijenberg is silent to the discharge electrodes having an outer radius approximately equal to or slightly smaller than the inner radius of the housing, or wherein a concave section for loading an additive material is formed on the discharge electrode.

7. Further, Minamikata teaches in figure 4 that electrodes (6 and 11) are slightly smaller than the inner radius of the housing, and this configuration lowers the discharge maintaining voltage and energy loss is decreased¹, and concave irregularities improves electron discharge uniformity².

¹ Minamikata, column 4, lines 37-43.

² Minamikata, column 3, line 64 to column 4, line 11.

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8. Although Minamikata is silent to an exact method of axially adjusting the electrodes to a predetermined gap, it is obvious that occasionally small adjustments will be required to insure the discharge gap is correct and require adjustable fixing positions.

9. Although Minamikata is silent to using the concave sections for “loading an additive material,” the Examiner notes that this limitation recites an intended use that Minamikata’s electrode structure is capable of performing.

10. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Wijenberg’s illuminant for a discharge lamp including the electrode’s diameter and concave sections, since this configuration lowers energy loss, and improves electron discharge uniformity.

11. The Examiner notes that the claim limitation “...inserted from both ends of said housing into said housing...” is drawn to a process of manufacturing, which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

12. The Examiner further notes that Applicant did not traverse Examiner’s statement in the first Office action that it is well known in the art that a predetermined gap distance for an illuminant discharge lamp is required to be extremely accurate and small adjustments will be required in some cases.

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13. In regards to claims 4 and 5, Wijenberg and Minamikata teach all of the limitations recited in claims 1 and 2 (above).

14. Wijenberg is silent to a projection section for discharge start-up is provided on the discharge electrode.

15. However, Minamikata teaches in figures 1a and 1b, a discharge tube wherein a projecting section (6a) is provided on the discharge electrode for discharge start-up. Minamikata further teaches that this configuration lowers the discharge maintaining voltage and energy loss is decreased³.

16. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Wijenberg's illuminant for a discharge lamp including the a projection section for discharge start-up is provided on the discharge electrode, since this configuration lowers energy loss, and improves electron discharge uniformity.

Response to Arguments

17. Applicant's arguments filed February 24, 2003 have been fully considered but they are not persuasive.

18. Applicant asserts, "Minamikata does not teach or suggest a concave section formed on the discharge electrode."⁴ However, Minamikata teaches that a concave irregularity which is formed on a discharge electrode improves electron discharge uniformity⁵.

³ Minamikata, column 8, lines 55-69.

⁴ Remarks, page 3, paragraph 6.

⁵ Minamikata, column 3, line 64 to column 4, line 11.

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Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

20. Hamada et al (USPN 6,172,453; "Hamada"), Fox et al (USPN 5,880,559; "Fox"), Akanuma (USPN 5,061,877; "Akanuma"), and Willems (USPN 3,908,252; "Willems") all disclose electrodes that have concave sections for loading an additive material. However, they are not relied upon in this office action.

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

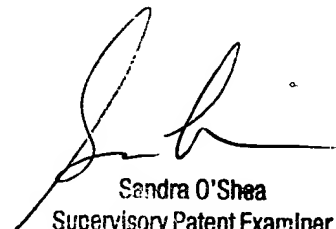
23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (703) 305-7198. The examiner can normally be reached on 7:30 - 4:30, M-F.

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24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

25. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

pjm
June 17, 2003



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800